

ADDITIONS TO THE GENUS TAGETES

(HELENIEAE, ASTERACEAE)

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Critical attempts to identify various collections of the genus Tagetes have revealed two undescribed species and called attention to a third species that should be transferred to the genus.

Tagetes iltisiana H. Robinson, n. sp.

Plantae herbaceae erectae annuae ca. 25 cm altae pauce ramosae. Caules tenues. Folia opposita profunde pinnatifida 2-4 cm longa, pinnis 3-4-binatis anguste ellipticis 5-10 mm longis 1-2 mm latis pauce serrulatis ad apicem breviter argute acutis vel setiferis intramarginaliter pauce glandulo-punctatis. Pedicelli pertenuis 2-3 cm longi monocephali. Capitula subfusiformia ca. 8 mm longa ca. 3 mm lata trilobata, lobis breviter acuta 1 1/2 latioribus quam longioribus membranaceis, punctis glandulosis oblongo-ovalis vel linearibus 0.3-0.9 mm longis. Flores 5 flavi, radiis 1-2; corollae radiorum ca. 4 mm longae, limbis orbiculatis ca. 1 mm longis et latis; corollae discorum ca. 3 mm longae 5-lobatae inferne extus breviter setiferae, faucibus intus superne pauce setiferis, lobis ca. 0.7 mm longis ca. 1 1/2 longioribus quam latioribus marginaliter breviter setiferis extus pauce stomatiferis; thecae antherarum ca. 0.7 mm longae, cellulis exothecialibus breviter oblongis, parietibus transversalibus nodiferis; appendices subulatae 2-2 1/2 longiores quam latiores. Achaenia subfusiformia in dimidiis superioribus latiora ca. 6 mm longa 0.7-0.8 mm lata sparse hispidula; carpodia parva distincta valde asymmetrica, cellulis minutis 16-18 μ latis 6-10 μ longis multiseriatis; pappus bi-tri-seriatus, squamis exterioribus 3-5 oblongis 0.5-0.8 mm longis ca. 0.3 mm latis, squamis interioribus 1-3 longe subulatis 2.0-3.5 mm longis extus et marginaliter dense scabrellis. Grana pollinis ca. 30 μ diam.

Type: BOLIVIA: Cochabamba: Prov. Cercado. Cervecería Colón, about 2 km N of Cochabamba. Alt. 2700 m, roadside thickets bordering a small garden patch, with *Solanum anomalocalyx*, *Cleome*, *Eryngium*, *Tagetes*, *Clematis*, *Euphorbia*, *Oenothera*, *Polygonum*, *Nicotiana glauca*, and non-tuberous *Solanum* sp. April 3, 1963. D. Ugent 4598 (holotype US, isotype WIS).

The species is named for Dr. Hugh Iltis of the University of Wisconsin through whose efforts the specimens were collected and forwarded for determination. The new species is closest to Tagetes gracilis DC. from which it differs by the fewer lobes of

the involucre. Tagetes gracilis characteristically differs also by being a larger plant with clustered heads. One specimen seen, BOLIVIA: Cochabamba: Parstani, 2450 m, III 1951. Cárdenas 4792 (US), has the habit of T. iltisiana and was anoted as a possible new species by Neher. The material has the 5-lobed involucre of T. gracilis but has a greater number of awns in the pappus than in other specimens seen in either related species.

Tagetes moorei H. Robinson, n. sp.

Plantae herbaceae erectae perennes ca. 30 cm altae multo ramosae. Caules parum sexangulares. Folia opposita profunde pinnatifida plerumque 2.0-2.5 cm longa, pinnis 3-binatis late ellipticis 4-10 mm longis 3-4 mm latis argute serrulatis ad apicem breviter acutis solum in dentes glandulo-punctatis. Pedicelli 5-8 cm longi ca. 1 mm lati superne crassiores monocephali. Capitula cylindrica ca. 12-15 mm longa 4-7 mm lata superne latiora ca. 8 lobata base valde annulata, lobis breviter acuta 1-1 1/2 latioribus quam longioribus coriaceis, punctis glandulosis ovalis vel linearibus 0.5-2.0 mm longis. Flores ca. 50 flavi, radiis ca. 8; corollae radiorum ca. 15 mm longae, tubis ca. 4 mm longis, limbis oblongis plerumque bilobatis ca. 10 mm longis usque ad 6 mm latis; corollae discorum ca. 6 mm longae anguste infundibulares 5-lobatae, limbis extus inferne breviter setiferis, lobis ca. 2 mm longis intus et marginaliter dense breviter setiferis extus non vel pauce stomatiferis; thecae antherarum ca. 2 mm longae, cellulis exothecialibus oblongis, parietibus transversalibus nodiferis; appendices subulatae 3-3 1/2 longiores quam latiores. Achaenia subfusiformia in dimidiis superioribus latiora ca. 6 mm longa ca. 0.7 mm lata plerumque glabra base vix scabra; carpodia parva valde asymmetrica, cellulis minutis ca. 15 μ latis 6-10 μ longis multi-seriatis; pappus bi-seriatus, squamis exterioribus ca. 5 oblongis ca. 0.5 mm longis 0.2 mm latis, squamis interioribus ca. 5 obovatis vel longe subulatis 1.3-4.0 mm longis marginaliter dense scabrellis extus sparse scabrellis. Grana pollinis 25-30 μ diam.

Type: MEXICO: Hidalgo: Zimapán. Lower portion of nearly sheer calcareous north-facing cliffs on dry rocky slopes of Barranca de Tolimán somewhat above the mines 8.1 miles from Zimapán on road to Mina Loma del Toro, alt. ca. 5000'. 30 October 1949. H.E. Moore, Jr. 5450 (holotype US, isotype BH).

The species is named for the collector, Dr. H.E. Moore, Jr. of the Bailey Hortorium of Cornell University. The new species has much of the habit of Tagetes parryi A. Gray and shows the same form of pappus and nearly glabrous achenes. Tagetes parryi is very distinct in the larger segments of the leaves which bear many glandular punctations throughout the lamina. The new species is from Hidalgo while all material seen of T. parryi is from adjacent San Luis Potosí to the north.

Tagetes praetermissa (Strother) H. Robinson, comb. nov.

Vilobia praetermissa Strother, Brittonia 20: 343. 1968.

The species has been the basis for the monotypic genus Vilobia. Strother emphasized the involucre being broadened above and the pappus squamae being divided into 3-5 slender awns. The involucre is disregarded here because of the essentially similar form in such species as T. crassiceps Blake and the generally variable form of the structure in the genus. The pappus is uniquely formed but is nevertheless only another variation among many already known in Tagetes. Any such distinctive species can be accorded higher status as a matter of personal judgement, but it is my personal judgement that Vilobia represents a needless separation of one species from its close congeners. In reducing the genus I anticipate the needs of future botanists having realistic concepts of the group.